CLAIMS

WHAT IS CLAIMED IS:

1. A milking teat cup comprising:

a structural container component defining a shell;

a liner component configured to be mounted in the structural container component; and

an applicator integral with the shell and configured to apply fluid in a horizontal plane and inward fashion at the top of the shell.

2. The teat cup of Claim 1, wherein the applicator provides a substantially planar flow pattern, whereby circumferential application of the fluid on a teat received by the shell is maximized.

3. The teat cup of Claim 1, wherein the liner component comprises a ring-formed or mechanically-created exterior opening mouthpiece.

4. The teat cup of Claim 1, wherein the liner component comprises a mold-formed exterior opening mouthpiece.

5. The teat cup of Claim 1, wherein the liner component does not function in a milking action without the applicator.

6. The teat cup of Claim 1, further comprising a locking mechanism to secure the applicator to the shell.

7. The teat cup of Claim 1, wherein the applicator is integral to the perimeter of the top opening of the shell.

8. The teat cup of Claim 1, wherein the fluid comprises teat skin disinfectant and/or skin conditioner.

9. The teat cup of Claim 1, wherein the applicator comprises a plurality of orifices.

10. A milking teat cup configured to apply a fluid treatment to a teat immediately after milking of the teat is completed by providing a substantially planar pattern flow of the fluid treatment across the top of the teat cup, the teat cup comprising:

a shell having a top opening for receiving a teat and a bottom connection coupled to a milk receiving device;

a liner located within the shell and having an open mouthpiece located proximate to the top opening of the shell; and

an applicator with discharge nozzles located along a perimeter proximate to the top opening of the shell, the applicator providing fluid treatment through the discharge nozzles to the teat received by the shell at a horizontal plane to the top opening of the shell.

11. The teat cup of Claim 10, wherein the liner has a ring-formed or mechanically created exterior mouthpiece.

12. The teat cup of Claim 12, wherein the liner has a mold-formed exterior opening mouthpiece.

13. The teat cup of Claim 10, wherein the applicator is removable from the shell.

14. The teat cup of Claim 10, further comprising a locking mechanism to secure the applicator to the liner component.

15. The teat cup of Claim 10, wherein the liner comprises an extension along the mouthpiece, the extension defining a seal with the shell.

16. The teat cup of Claim 10, wherein the applicator has multiple discharge nozzles evenly spaced apart from each other.

17. A combination milking and applicator device comprising:

a flexible milking sleeve having a shape for insertion of a teat;

an inflexible shell surrounding the flexible milking sleeve and providing for a vacuum space between the flexible milking sleeve and the inflexible shell; and

an applicator component around openings of the flexible milking sleeve and the inflexible shell, the applicator component being configured to dispense fluid over openings of the flexible milking sleeve and the inflexible shell.

18. The device of Claim 17, wherein the applicator component discharges fluid at a teat in the openings of the flexible milking sleeve and the inflexible shell.

19. The device of Claim 17, wherein the applicator component facilitates a coating and wiping action of disinfectant on the teat.

20. The device of Claim 17, wherein the applicator component is integral to the flexible milking sleeve.

21. The device of Claim 17, wherein the applicator component comprises an elastomeric material.

22. The device of Claim 17, wherein the applicator component comprises discharge nozzles.

23. A milking system including a combination milking and applicator device, the milking system comprising:

a plurality of teat cups, the teat cups including applicators integrally attached thereto, the applicators being configured to apply fluid in a horizontal plane and inward fashion across a top of the teat cups;

a valve manifold coupled to the teat cup applicators, the valve manifold controlling flow of fluid to the applicators; and

a controller including logic configured to provide control signals to the valve manifold, the controller signaling the valve manifold to pre-charge a hose delivering fluid to the applicator and signaling the valve manifold for end of milking and begin delivery of the fluid from the applicator.

24. The milking system of Claim 23, further comprising an applicator control valve coupled between the valve manifold and the number of teat cups.

25. The milking system of Claim 24, wherein the applicator control valve comprises a safety valve comprising a discharge orifice.

26. The milking system of Claim 23, wherein the pre-charge of the hose delivering fluid to the applicator dispenses 10 mL or less of fluid to the hose.

27. The milking system of Claim 23, wherein the applicators comprise multiple discharge nozzles evenly spaced apart from each other.

28. The milking system of Claim 23, wherein the number of teat cups is more than one.

29. The milking system of Claim 23, further comprising a plurality of valve manifolds and a plurality of controllers.

30. The milking system of Claim 29, further comprising a power supply coupled to the controllers.

31. A milking method including a combination milking and applicator device, the milking method comprising:

commencing a milking session in which milk is delivered from animal teats engaged by teat cups;

pre-charging a fluid line coupled to the teat cups with a disinfectant and/or conditioning fluid;

terminating the milking session; and

dispensing the disinfectant and/or conditioning fluid from the fluid line out of applicators in the teat cups, the dispensing commencing when the number of teat cups begin to disengage from the animal teats.

32. The milking method of Claim 31, further comprising applying a water flush or drying air to the applicator after the disinfectant and/or conditioning fluid is dispensed.

33. The milking method of Claim 31, wherein the disinfectant and/or conditioning fluid comprises a disinfectant, conditioning, and/or cleaning component.

34. The milking method of Claim 31, wherein the applicators apply the disinfectant and/or conditioning fluid in a horizontal plane and inward fashion across a top of the teat cups.

35. The milking method of Claim 31, wherein pre-charging a fluid line coupled to the number of teat cups with a disinfectant and/or conditioningfluid comprises dispensing 10 mL or less of disinfectant and/or conditioning fluid in the fluid line without dispensing the fluid out the applicators to the teat cups.